

President Emeritus - Tom Scorsone, KC2FCP President - Bryan Jackson, W2RBJ Vice-President - Walt Snyder, N2WJR
Secretary - Steve VanSickle, WB2HPR Treasurer, Don Mayotte, KB2CDX
Board Members: Tom Scorsone, KC2FCP Russ Greenman, WB2LXC Steve VanSickle, WB2HPR

EGARA Members Vote to Move to New Home

Club members voted at the February meeting to move club meetings to the Rensselaer County Search and Rescue (RCSAR) Building starting in April after meeting for several years at the East Greenbush Masonic Lodge. The move was prompted by financial considerations after the Lodge informed EGARA that it would be required to pay \$1,200 a year to continue using the facility. The payment was in addition to the club's monthly maintenance of the building.

"We've had a great relationship with the Masons, but a careful analysis of the financial commitment being requested of the club couldn't be justified based on its limited resources," said President Bryan Jackson, W2RBJ. "Under our agreement with Search and Rescue, we will provide in-kind services that include monthly cleaning of the building, lawn care and assistance with building maintenance."

In addition, EGARA will continue to maintain a liability insurance policy, as it did under its agreement with the Masonic Lodge. The club may also assist with other projects upon mutual agreement with RCSAR. The agreement with RCSAR will permit the club to hold its monthly meetings at its building, as well as events such as Field Day. It also provides storage space for club equipment and supplies.

"I wish to personally thank club members Jim and Gina Pendolino for their assistance in getting us permission to use the RCSAR facilities, as they are members of both organizations," said Jackson. "We look forward to a long-term and successful partnership between EGARA and RCSAR."

EGARA previously held its meetings at the RCSAR building before moving to the Masonic Lodge a number of years ago.



The Rensselaer County Search and Rescue Building on Neptune Street

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Club Elections Next Month

The annual election of club officers will take place at the April membership meeting. The offices of President, Vice President, Treasurer and Secretary will all be on the ballot, as will one board position.

All club members in good standing are urged to consider running, and are encouraged to participate in voting at the meeting. The good standing criteria includes dues being fully paid by April 1st, as required by the club's by-laws.

Club members who wish to self-nominate for a position should submit their name and the position they wish to run for to W2RBJ@outlook.com.

Officers serve a one-year term, while board members serve a three-year term.

Next Membership Meeting - March 13, 2024

Eight for Eight! Egara Tech Class Scores 100%

All eight participants of the Capital District Jeep Wrangler Off-Roader Club (CDJW) passed their Technician exams after attending the training class held for them February 10 & 11 by Egara. The two-day course was staffed by club members Pete Sochocki - NY2V, Russ Greenman - WB2LXC, Walt Snyder - N2WJR, and Bryan Jackson - W2RBJ.

The session was arranged after Egara was contacted by CDJW late last year after its members inquired about being able to use Amateur Radio instead of Citizen Band for its communication needs. In addition to coordinating the project, obtaining study materials, and collecting test fees for its members, CDJW also provided a spacious meeting room in Ballston Spa at Curtis Lumber for the training and lunch for those attending.

"Just wanted to say thanks for working with CDJW to help our members get their licenses this past weekend," said CDJW President Jason Anderson in an email. "I was pleasantly surprised at the success rate. Well done! I hope this is the beginning of a great relationship between our clubs. Radio based communications is an important aspect of CDJWs daily operations, and I'm confident that the wisdom imparted the last few days will help our club for a long time to come."

The intensive two-day course required participants to obtain the ARRL Tech license study guide and review the material prior to the start of the training.

"The key to success is preparation and our 100% success rate is proof that it works," said Pete Sochocki, NY2V, who headed up the program. To assist the group get on the air, the club provided each with a copy of its "New Ham Kit", which covers basic operating information and procedures, such as how repeaters work.

To expedite license processing, all of the exam materials were sent electronically to ARRL by Egara's VE team. Unfortunately, the FCC's licensing system crashed the next day, resulting in an unexpected delay of a week (see related story on page 12). However, once the system was fixed, the class participants had their new licenses and call signs.

Given the success of the course, Egara is now considering offering additional license training sessions in the future, including courses for the General and Amateur Extra licenses. Because of the more in-depth knowledge these higher class licenses require, the courses would need to be held over the period of several weekends.

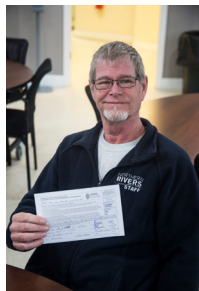
The new Techs are pictured below:



⇐ Eric Gould - KE2CRX
⇐ Katherine Gould - KE2CRY



⇐ Amanda Davis - KE2CSH
⇐ Andrew Holland - KE2CRZ



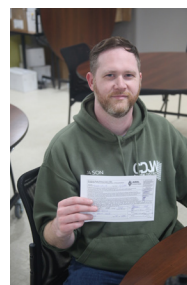
⇐ Lee Kittle - KE2CRV



⇐ Gabriel Taylor - KE2CRW



⇐ Lawrence Bordeaux - KE2CRS



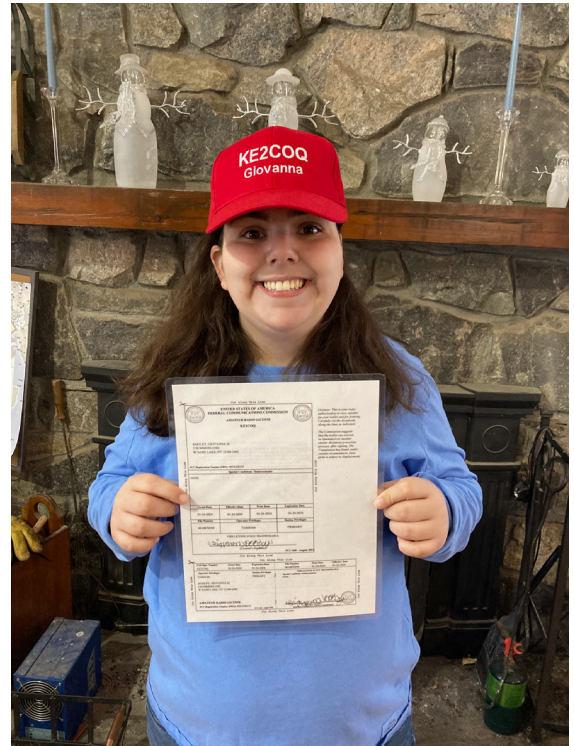
⇐ Jason Kittle - Pending

The Giovanna Journey

By Melva Olson, KE2BJU

It was a typical summer weekend in upstate NY, with threats of thunderstorms. My husband and I got our neighbor, Giovanna Dooley, interested in going to our amateur radio club's annual Field Day. She loved going places with us, as I had done family respite with her for the past 10 years. Soon our phone rang that morning telling us our club canceled the Field Day, because of the storm threats. It was such a disappointment that we sought out other clubs in our area to see if they canceled too. Fortunately the storm held off, and a club in a nearby town was still holding theirs.

During the field day Giovanna was offered to go on the radio as a guest of Paul Borst, WK2Q. He was showing young folks how to enjoy the ham radio hobby. There were two other youngsters that were offered this thrill as well. Giovanna was able to make five contacts for the club that day. This is when she got bit by the ham radio bug! Glenn Cooper, W2BK, was there as well, and encouraged her to study for her Technician's license. I remember explaining to him that Giovanna had a developmental traumatic brain injury, and had just graduated from her high school's special education program. He still encouraged her, telling me to get flash cards for her to study from. For the next six months Giovanna studied online programs as well as those flash cards. She literally spent a few hundred hours studying. By December she felt she was ready to go for the test! She was averaging 85-91 on the online practice tests.



Soon, she took her first exam. The people were so kind and gentle with her, yet she failed. She said she was so anxious she thought her heart would jump out of her chest. So, I had to think of a way that she would be more comfortable with. She did amazingly well at my kitchen table doing study tests.

Being from Alaska myself in the past, I knew Anchorage Alaska Amateur Radio Club had a remote testing program. Giovanna and I contacted them, and before I knew it she was scheduled for her Technician exam. When the day of testing arrived she was still very tense. She failed three times in a row. Nerves hit her again!! Even though she was so disappointed, her V.E. Team kept encouraging her to keep trying. So, Giovanna went online and scheduled another test two days later. She is not a quitter!!

When January 22, 2024 arrived, J.D. Delaney, the W1JD, V.E. Team Coordinator, had arranged an all female team with some women she knew as examiners from her last exams. This was her seventh attempt, but nothing would stop her! She went into this session with a positive attitude, a little nervousness, but a feeling that this was the day!!

When she finished the exam the V.E. team told her to bring her friends back in the room to see the test results. The computer then showed the big results..... "You PASSED!"

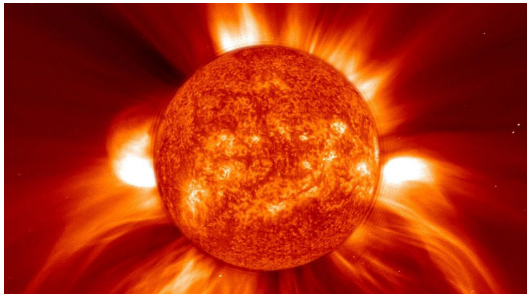
To help Giovanna get on the air, EGARA Treasurer Don Mayotte, KD2CDX, presented her with one of his dual band HT radios. And to further celebrate her success, on March 3, 2024 Giovanna will be honored at a reception in our home with family, friends, and neighbors.

She is now known as KE2COQ! And she's proof positive that persistence pays off!

Sun Erupts with Most Powerful Solar Flare Since 2017

By Robert Lea

The sun has unleashed its most powerful solar flare for around seven years, affecting high frequency radio transmissions.



The X6.3 class solar flare is the most powerful of the current solar cycle, designated solar cycle 25. The flare reached its peak activity at 5:34 p.m. EST on Thursday, Feb. 22, according to the National Oceanic and Atmospheric Administration (NOAA). This was the third solar flare in a 24-hour period from an active solar region on the sun known as AR 3590. Previously, an X1.8-class flare blasted out of this giant sunspot region at 6:07 p.m. EST on Wednesday, Feb. 21, and an X1.7-class flare occurred earlier on the previous day at 1:32 a.m. EST.

The two previous solar flares from NOAA AR 3590 were not accompanied by massive outflows of plasma called Coronal Mass Ejections (CMEs). According to the European Space Agency (ESA), the X6.3 class solar flare was not accompanied by a CME either.

Powerful solar flares can affect communications and power infrastructure on Earth when accompanied by CMEs. This can happen when solar plasma strikes Earth's protective magnetic bubble, the magnetosphere. Though the previous two solar flares seemed to be correlated with widespread cellular outages that were reported across the U.S. on Thursday morning, AT&T says the outage was caused by a software issue, according to the company (see related story on page 11).

NOAA said that the X6.3 flare has the potential to cause temporary degradation and loss of signal for high-frequency radio users on the sunlit side of Earth. The agency added that the general public should not be concerned about this X6.3-type flare.

The European Space Agency (ESA) added that NOAA AR 3590 will soon point directly toward Earth, and further flares are expected from the active region in the future. The space agency says that the probability of another strong X-class flare is estimated at 15%, with a probability of more moderate C- and M-class flares estimated at 99% and 60%, respectively.

The table below provides the correlation between radio blackouts, solar flares, nominal energy flux (watts per square meter), and the severity of the event

Radio Blackout / X-ray Flare / Flux (W/m²) / Severity

R1	M1	0.00001	Minor
R2	M5	0.00005	Moderate
R3	X1	0.0001	Strong
R4	X10	0.001	Severe
R5	X20	0.002	Extreme

If these flares occur while the active region is pointed directly at Earth and they are accompanied by CMEs, they could cause geomagnetic disturbances when this solar plasma reaches our planet. ESA added that the exact impact of the CME will depend on the speed at which the plasma is ejected and whether it directly hits Earth or passes above or below our planet. As NOAA AR 3590 rotates toward Earth, this active region will become increasingly magnetically connected with Earth. This means that any energetic solar particles following the magnetic field lines stretching from the sun could impact Earth and satellites in orbit.

According to NASA, X-class flares such as this are the strongest class of these eruptions of energy from the sun, they are also quite rare. The weakest class of solar flares is a B-class solar flare, the next strongest a C-class, then M-class, and then X-class flares are the most powerful. Like the Richter scale used to measure the strength of earthquakes, this solar-flare scale increases by a magnitude of 10 with each successive type. Thus, a C-class flare is 10 times as powerful as a B-class flare, and an X-class flare is at least 1,000 times as powerful as a B-class flare. Within each of these classes, on a sliding scale from 1 to 9, X-class flares have the potential to go beyond X9.

The sun is currently heading toward solar maximum, the point in its 11-year cycle at which it reaches peak activity. This will occur at some point in 2024. This means a ramping up of sunspot frequency, active regions like NOAA AR 3590, and solar outbursts.

EGARA February Meeting Minutes

- The February meeting of the EGARA was called to order by President Bryan Jackson, W2RBJ at 7:01 PM. There were 22 members in attendance at the Masonic Temple. After a round-robin introduction, Bryan recognized newly minted Technician Giovanna Dooley, KE2COQ (see story on page 3). A raffle was conducted and several nice prizes were given away.
- President Jackson gave his monthly report report. He reported that the recent VE session was a success, with 8 candidates from the Capital District Off-road Club passing their Technician exams. He mentioned the possibility of holding additional VE sessions and classes. The URL website and the club liability payments are scheduled for this month. Required annual tax forms have been submitted to the IRS. Member dues are being accepted and can be sent via PayPal. With annual election of officers scheduled for the April meeting, it is important for members' dues be up-to-date in order for them to cast their votes. Lodge rent is also due.
- Rensselaer Search and Rescue (RCSAR) has expressed interest in making their facility available for use by EGARA as an alternate gathering place for Field Day and regular monthly meetings. EGARA would be responsible for providing building janitorial services and lawn maintenance. By a show of hands, members overwhelmingly voted to move all club activities to the RCSAR facilities by the end of March. A shed may be erected on its property for storage of EGARA equipment. The facility offers handicap accessibility (see story on page 1).
- News letter articles and For Sale items should be sent to President Jackson. Also, Volunteers are needed to help with the monthly Lodge maintenance on February 21st at 10:30 AM.
- No old business. New business: Pete Sochocki, NY2V has access to a Motorola 100 watt repeater for possible club use. Site location has yet to be determined.
- The Treasurer, Don Mayotte, KB2CDX, acknowledged receipt of membership dues for 2024. Secretary Steve VanSickle, WB2HPR reminded members to check the club website, www.EGARA.club, for past newsletters where they may read minutes of prior meeting(s).
- Fred Sochocki, NY2V gave an informative multi-media presentation on the development of diversity reception, from early inception – and played a recording of a state-of-the-art SDR diversity system in actual use.
- Refreshments were enjoyed by the membership.
- The meeting was adjourned at approximately 8:18 PM.
- Minutes recorded by Secretary Steve VanSickle, WB2HPR

The History of Ham Radio: Strays – The Glossary

Chris Codella, W2PA, author, John Pelham, W1JA, editor, Phil Johnson, W2SQ, editor

(Editor's note: By special arrangement with the authors, Sidebands is pleased to present this multi-part series on the history of ham radio. Subsequent chapters will be published in future monthly editions of the newsletter)

We have finally completed presenting all of the chapters of the *History of Ham Radio*. Over the past several months, we are pleased to have presented this series of articles and we trust you found the information both informative and entertaining. All of the many chapters previously published here can be found in our past newsletters, which have been archived on the club's website at: www.EGARA.club/newsletters.

In this issue, we conclude the series with a glossary of terms developed and used since the start of Amateur Radio, many of which are still in use today.

1929 type – Describing stations, transmitters and receivers, this term meant that they had been designed specifically to adhere to the bands and signal characteristics dictated by the 1927 International Radio Convention, whose specifications went into effect on January 1, 1929.

AARS – Army-Amateur Radio System, volunteer precursor to MARS

Antipode(s) – Two locations directly opposite one another on the earth's surface, believed in the early days to favor propagation because of a re-convergence of signals from multiple paths around the globe.

Audibility – A measure of signal strength, usually based on audio strength

Audion – DeForest's name for a three electrode vacuum tube

BCL – Broadcast Listener, used to refer to listeners in the early 1920s to distinguish them from amateurs. The term novice was also used at this time to refer to such a listener.

Beam transmission – a term first used in the mid-1920s to refer to a directional signal, especially at very short wavelengths around 1 meter and below.

Bulb – early term for vacuum tube (see also Audion)

Bug – used alone, an early synonym for ham – as in, radio bug

Bustands – also Bustan, contraction of the Bureau of Standards (WWV, is its station)

Chicago Plan, The – a time sharing plan intended to reduce QRM in the Chicago area, many variations of which were adopted around the US in the early 1920s. (see April 1921 QST, "QRM and The Relay Game," by J. F. Scholtes, 9AR)

Chopper – a rotary device used to modulate a CW signal to produce ICW

Connection – As in "we present a connection for..." – early term for a circuit or design.

Damped oscillations or waves – Radio frequency pulses such as those produced by a spark transmitter, typically a series of short bursts of radio frequency energy that decay in amplitude with time.

Dead end – refers to the unused part of a tapped inductor, beyond the tap in use. Letting unused turns float was a source of various problems in early RF circuit design.

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History of Ham Radio... Glossary

Decrement – a parameter of a spark or damped wave transmitter, it denotes how rapidly the amplitude of the RF wave decreases. It is calculated by taking the ratio of the amplitude of successive oscillations in the wave train, and taking the natural logarithm (called the Napierian logarithm in texts of the teens and twenties). In textbooks (e.g. Duncan and Drew) it is referred to as the logarithmic decrement. Example: a ratio of 1.22 is a decrement of 0.2. It is usually specified in tenths, as in “the law says our wave shall not dampen quicker than two tenths” means the decrement should not exceed 0.2 (the government regulated maximum decrement). If damping is too quick, you get a series of very short pulses that are very broad. See the chapter on Spark Radio for a more complete explanation.

District –an ARRL organizational unit in the 1920s just below the division level, managed by a District Superintendent, or D.S. In some divisions they were called “sections.” See, for example, The Operating Department, March 1922 QST, where West Gulf Division has both Districts and Sections and Central Division has Districts.

D.S. – District Superintendent (see District).

DX – in the early years simply meant “distance.” DX station meant a station capable of working long distances (as used e.g. p33, Jan 1920 QST).

Fading – early term for QSB—also called “swinging,” “freaks” and QSS

Fan antenna – multiple vertical wires that spread out as they are strung up from ground level, fed at the common point at bottom, insulated and supported by a horizontal wire at the top. A popular antenna in the teens and twenties.

FB – Fine business—generally used as either a noun or adjective to describe goodness.

Freak – yet another word for QSB or “fading.” Sometimes used as a verb, as in “freaking in and out” (e.g. p36 Feb 1921 QST).

GCT – Greenwich Civil Time, which, in the 1920s was defined as beginning 0000 at midnight as opposed to GMT which began at noon despite later conventional use as starting at midnight.

Group Frequency Method – Using a tuning capacitor in the headphone circuit to select a specific spark tone.

Handy's Handbook – The first edition of The Radio Amateur's Handbook, edited by ARRL Communications Department Manager F. E. Handy and published in 1926. It was commonly referred to as Handy's Handbook in the late 1920s.

Honeycomb coil – An inductor wound with turns that weave in and out radially so that adjacent windings are never parallel and thus minimizes the distributed capacitance of the coil.

Hot wire ammeter (HWA) – A device for measuring feed line (and therefore antenna) current. This was the common way of specifying radiation (rather than power in watts).

ICW – Interrupted CW—a modulated CW signal using a “chopper” to pulse it.

Intermediate – the separator between called and calling stations' call signs, most commonly DE, which, in the 1920s was proposed to change depending on the countries involved during a contact. It was also sometimes called an Interval Sign.

Interval sign – See Intermediate.

Juice – An early common slang term for electric power service.

LD – Long distance; a precursor to “DX”

Litzendraht wire (Litz wire) – A bundle of stranded wire, each strand insulated from one another to reduce AC resistance due to skin effect (by increasing surface area)

M.O.P.A. – Master oscillator, power amplifier—the name given to the most popular design for transmitters in the late 1920s.

Natural wave – Refers to the resonant length of an antenna, usually one full wave length.

History of Ham Radio... Glossary

NCR – US Naval Communication Reserve, a service in the 1920s and 1930s for hams to serve in reserve duty.

ND – No dice—roughly the opposite of FB.

Number – used to mean “issue” as in this month’s number of QST.

Novice – an early 1920s term for a broadcast listener, as distinguished from a radio amateur. Also BCL for broadcast listener.

Off-wave – Operation outside the legal limits of an amateur band, a term mostly used in the late 1920s and 1930s

O.T. – Oscillation transformer—forms the resonant circuit in a spark transmitter and couples to the antenna

O.W. – Old woman—a precursor to YL, also synonym for XYL (see, e.g. Mar 1922 QST p 53).

Phantom antenna – A dummy load (see, e.g. July 1917 QST editorials and Sept 1921 QST p.25)

Power factor – (Apparently) the cosine of the angle between voltage and current—so in resonance, it equals 1. See, e.g. July 1921 QST p.15.

PX – Abbreviation for press release used during the MacMillan polar expedition in 1923-24.

QCW – (Feb 20 p46) a suggestion: listen for my CW on ... meters (or a question)—used during the early stages of the shift from spark to CW.

QRK – Readable (on a scale from 1 to 5).

QRM – Interference with or from another station’s signal.

QRN – Static, or random noise caused by natural sources – see “strays”

QSA – As in, signals are QSA, means roughly 5 by 9 signals. Or “strength” (1 to 5).

QSL – A reply card to a received QSL card.

QSS – Early Q-signal promoted by ARRL to mean “fading” in the 1920s—later replaced by QSB.

Radiocorp – Early shorthand for RCA corporation (e.g. p13, February 1922 QST).

Radiotron – Brand name for RCA vacuum tubes.

Receivers – Early synonym for headphones.

R.I. – Radio Inspector – A government district level official.

Rock-crusher – Slang term for a spark transmitter (e.g. p.40 Sept 1921 QST).

Rochester Plan, The – A plan for sharing the airwaves with broadcasters in the early 1920s that involved amateurs voluntarily refraining from transmitting between approximately 7:00 and 10:30 PM local time.

Secondary circuit – Early synonym for the grid circuit of a vacuum tube circuit design (e.g. p9 Jan 1922 QST).

Self-controlled oscillator – One that is variable in frequency, as opposed to a crystal controlled one (e.g. p41, Dec 1930 QST).

SF – An abbreviation for standard frequency, used in the 1930s.

Sine, (sometimes written as sign) as in, operator’s sign or signature – An identifier for a specific operator at a station, usually two letters, used to distinguish one operator from another, and is a carry over from the days before government issued call signs when two-letter identifiers were used.

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Single-Signal receiver – also referred to as an S.S. receiver, was a superheterodyne design in the 1930s using interstage filtering for added selectivity.

S.S. Receiver – see single-signal receiver

Soldering copper – term for a soldering iron in the 1920s. They were available electrically heated and stand-alone for heating over a flame.

Special license – Granted to some stations to operate at wavelengths above 200 meters.

Spot frequency net – A net where everyone is on the same frequency—a novelty in the late 1920s and 1930s.

Squeak box – A spark coil, or spark coil-based transmitter.

Static room – An early term for ham shack—e.g. p13 Feb 1922 QST.

Strays – Another word for “static” (see, e.g. the report form for the 1920 QSS Tests in June issue. “Signal-stray ratio” is mentioned on p6, Jan 1921 QST. A Bureau of Standards researcher uses the term in June 1921 QST.

Swinging – Synonym for fading, or QSS. The term was also used in the early days of CW operation to describe the behavior of a signal having an unstable frequency.

Telephones – An early synonym for headphones—also called receivers in the early 1920s.

Time constant of an inductance – The old term for Q of an inductor (e.g. July 1921 QST p.17).

TPTG – Tuned plate, tuned grid style of transmitter circuit, circa 1930.

Transcon – Short for a transcontinental message relay, ca. early 1920s.

Tuner – Often used as a synonym for receiver, in the early 1920s it referred mostly to a receiver’s front end, particularly the grid and plate circuits of a regenerative detector.

Tunes – Pre-1920 (approx.) synonym for frequencies or wavelengths, as in, what you’re tuned to.

Undamped oscillations or waves – CW, signals with zero decrement.

Valve – Synonym for vacuum tube, mostly European but also used in early QST (e.g. September 1920 lead article).

Variometer – A transformer with variable coupling controlled by changing the angle of one winding with respect to the other, with one physically inside the other. See, e.g. the ad on page 3, Nov 1921 QST. It is used to get variable coupling between two inductors, or wherever a variable inductor is needed. One can connect the windings in series or parallel or have them independent.

Wing circuit – Vacuum tube plate circuit (syn.).

Wobulation or wabulation – The modulation of a transmitter’s frequency due to instability in its oscillator or amplifier while being keyed or modulated.

X Section – The Experimenters’ Section, a QST magazine department in the 1920s.

Need to Pay Your Dues?

It’s as easy as www.EGARA.club/pay-dues

Bill Hudzik, W2UDT, Silent Key Served as Vice Director of the ARRL Hudson Division

Former Vice Director of the ARRL Hudson Division and ARRL Maxim Society Member William "Bill" Hudzik, W2UDT, has passed away at the age of 77. He was a supporter of EGARA and supported the club with both his time and money. He often attended the club's Hamfest as a representative of ARRL and supported the club with financial contributions. Bill said he always enjoyed receiving the club's newsletter and reading about EGARA's various activities.

Bill served as Vice Director from 2011 to 2022, and he had previously been Section Manager of the ARRL Northern New Jersey Section. He was first licensed in 1961 as WV2UDT, and he was active in VHF contesting at the time.



Bill Hudzik, W2UDT | 1947 - 2024

He quickly gained a reputation as someone willing and able to help.

"He was probably one of the most capable people I have ever known. It didn't matter what you were doing, he knew how to deal with it," said ARRL Director of Operations Bob Naumann, W5OV. Naumann had known Hudzik for 45 years. "Bill set a very high bar for how to treat people," he said.

He served in the military and used his radio skills to help his fellow service people. During the holiday season in 1966 he ran phone patches from Kadena Air Base in Okinawa, Japan, as KR6SP, allowing them to call home.



Calling himself a "contest junkie", he enjoyed operating in contests from V26B in Antigua and Barbuda. He was part of several high-scoring team activations from the station. He also operated from St. Croix and wrote about the trip for ARRL.

Hudzik served as Section Manager from 2001 to 2008. He was active in government affairs to advance Amateur Radio in the Garden State. In 2011, he was appointed to serve as Vice Director of the ARRL Hudson Division. He served in that capacity until an illness forced his retirement in 2022.

ARRL President Rick Roderick, K5UR, praised the positive impact Hudzik had on Amateur Radio.

"Bill served ARRL and its members for many years. It was evident from the beginning that he was someone special. He was highly respected, friendly with all, and showed great insight and patience. Bill left a legacy that will be remembered. It was a privilege to have known him," he said.

ARRL Hudson Division Director Nomar Vizcarrondo, NP4H, said Hudzik's guidance was invaluable to him as he started in the role.

"I am deeply saddened by Bill's passing. Shortly after he resigned as Vice Director for the Division because of his health and I was appointed to continue his term, Bill reached out and offered me his support and guidance. It was a pleasure and honor to have known him. Board Members at ARRL along with our Hudson Division family are saddened by his passing and acknowledge the great human being and Amateur Radio Operator he was. He will be truly missed. Godspeed W2UDT."

A celebration of life will be planned in the future.

Eliminating Land Use Restrictions on Amateur Radio Gets Action in Washington

Congressional lawmakers have introduced legislation to eliminate homeowner association land use restrictions that prohibit, restrict, or impair the ability of an Amateur Radio Operator to install and operate amateur station antennas on residential properties they own.

Senators Roger Wicker (MS) and Richard Blumenthal (CT) introduced S.3690, the Senate's companion bill to the bill introduced last June in the House of Representatives. Both bills reflect the Congressional campaign efforts by ARRL to get such restrictions banned.

The bills cite that Amateur Radio Operators repeatedly are relied upon to provide essential communications when disaster strikes, but their ability to do so is being impaired by the exponential growth of residential private land use restrictions that hinder their ability to establish stations in their homes with which to train and provide emergency communications when called upon.

In announcing the introduction of S.3690, Senator Blumenthal said: "Our measure will help clarify the rules so ham radio enthusiasts can successfully continue their communications. In the face of emergency or crisis, they help provide vital, life-saving information that allow listeners to properly and safely respond, but prohibitive home association rules and confusing approval processes for installing antennas have been an unnecessary impediment. The Amateur Radio Emergency Preparedness Act resolves these bottlenecks and ensures that radio operators can function successfully."



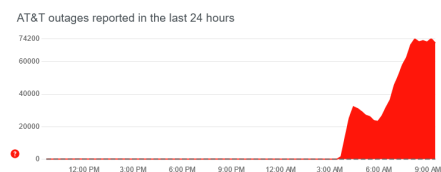
**Senator Richard Blumenthal
of Connecticut**

President Rick Roderick, K5UR, and Director John Stratton, N5AUS, Chair of the ARRL's Government Affairs Committee, both extended their thanks and appreciation for the leadership of Senator Wicker and Senator Blumenthal in their continuing efforts to support and protect the rights of Amateur Radio.

When All Else Fails... A Preview?

It's often said that "When all else fails, there's Amateur Radio."

A preview of just how true that might be came on February 27th around 3:30 a.m. (EST), when massive nationwide outages affected AT&T users, as well as T-Mobile and Verizon subscribers, who couldn't reach those on AT&T. The loss of service left customers unable to make or receive calls, including to 911 for emergencies. In addition, several major cities reporting that their 911 centers were impacted. The FCC and other agencies launched investigations.



There was some speculation the outage was caused by a solar flare. However, the flare impacted the Earth some three hours before the outage and it was focused on the daytime side of the planet. This mostly affected Europe and Western Asia, causing communication problems with some high-frequency signals. The Western Hemisphere, including the U.S., was mostly spared of the radiation impacts. Cell signals also aren't usually affected by such flares.

AT&T blamed the outage on an incorrectly applied software update, but security agencies have long warned there is evidence that countries such as China and Russia have been working on the ability to cripple the infrastructure of foreign nations, including their electric grids, water systems and communication systems. Should such attacks occur, Amateur Radio could well be among the only reliable communications methods still available.

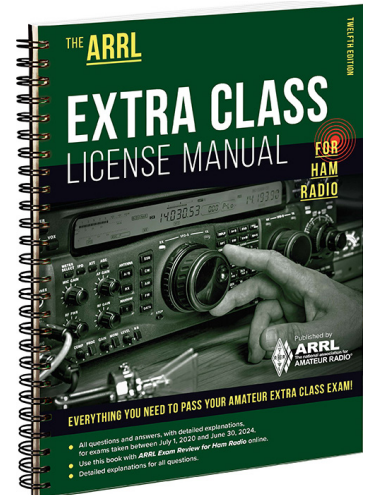
This was proven true in Puerto Rico when dozens of Amateur Radio operators were brought in to provide emergency communications after the island's traditional telecommunication systems were destroyed by Hurricane Maria in 2017.

On the Beam News & Notes

Amateur Extra Test Questions to be Revised Starting July 1st

The question pool for the Amateur Extra exam will change on July 1st. The pool was created by National Conference of Volunteer Examiner Coordinators (NCVEC) Question Pool Committee and will be effective until June 30, 2028. The revised Element 4 exam has many changes and those looking to upgrade to an Amateur Extra license may wish to consider taking the test before the changes take effect.

“The new pool incorporates significant changes compared to the current version, said ARRL VEC Manager Maria Somma, AB1FM, who is a member of the committee. “We carefully went over the pool for technical accuracy, relevancy to today’s amateur radio practices, syntax, grammar, style, format, and clarity and redundancy within and between the pools. With these goals in mind, 82 new questions were created, and 101 questions were eliminated, resulting in a reduction of the number of questions from 622 to 603. Over 350 questions were modified. We considered a question modified when the knowledge being tested was not changed but wording was improved, or answers or distractors were replaced.”



The 2024 - 2028 pool is available as a Microsoft Word document and as a PDF. The 10 graphics required for the new Extra-Class Question Pool are available within the documents or separately in PDF and JPG file formats and can be found at: <https://www.ncvec.org/index.php/2024-2028-extra-class-question-pool-release>.

New test designs will be available to ARRL Volunteer Examiners (VEs) on that date. The ARRL VEC will supply its officially appointed, field-stocked VE teams with new Extra-class exam booklet designs around mid-June.

Extra-class examination candidates preparing for their exams using the 12th edition of The ARRL Extra Class License Manual or the 5th edition of ARRL's Extra Q & A are encouraged to test on or before June 30, 2024.

New editions of the ARRL Amateur Extra class study guide will be available in May for exams taken on or after July 1, 2024.

EGARA plans to hold at least one exam session prior to the new question pool taking effect and will announce the test date as soon as it is set.

Crash Takes Down FCC Licence Filing System

On Tuesday, February 13, 2024, the FCC Electronic Batch Filing (EBF) system crashed, leaving it unable to process license applications. The system is used by all VEC organizations for filing exam session results, individual applications, and club license applications (see related story on page 2).

The ARRL's VEC team alerted FCC staff about the issue, however it was not immediately resolved. The licensing delays were further exacerbated by the FCC being closed for President's Day Holiday on February 19th, as exam sessions and amateur applications are not normally processed on holidays.

The system was finally restored on February 21st, with a backlog of several hundred license applications finally being processed. These included those who attended EGARA's Technician licensing class (see story on page 2).

1st RPI Ham Flea Market Set for March 30th



Members of the W2SZ Ham Radio club at RPI will hold their first Ham flea market in the college's Rensselaer Union McNeil Room on the Troy campus from 8 am to 2 pm on Saturday, March 30th. In addition to Amateur Radio gear, computer and electronic components will be offered.

Admission to the ARRL sanctioned event is \$6, with students admitted free with school ID. A \$1 discount will be offered to those who have a copy or picture of the flea market flier, or a copy of its Facebook, Instagram or X/Twitter social media posting.

Tables will also be for available for \$10 to those who have equipment for sale, with additional tables available at \$5. However, they must be reserved in advance to get that price by emailing convention@W2SZ.org. The price for tables purchased at the door will be \$15, with additional tables priced at \$10. Tables are 4 foot by 3 foot. One admission ticket is included with the purchase of tables.

Sellers will be able to set up 8 am, with general admission beginning at 9 am. Tickets will include entry into the raffle for the door prize, with winners required to be present to win when it is drawn at 12 pm. The flea market will continue until 2 pm.

A digital guidebook with a campus map, parking and food locations is available at: <https://hisenzhang.notion.site/hisenzhang/Guidebook-Flea-at-RPI-2024-f7a00889835644359dbe6b72fdc19b32> or by scanning the QR code at the right.



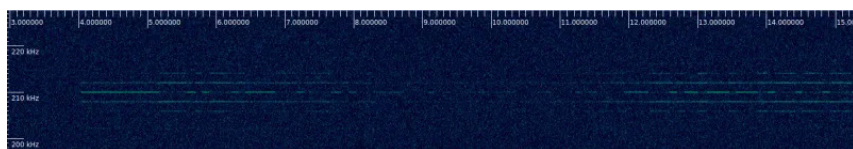
Japanese Lunar Lander is First Amateur Station on the Moon

When Japan's SLIM lunar lander made a rather unconventional touch-down on the lunar surface, it had already disgorged two small lunar excursion vehicles from its innards: LEV-1 and LEV-2. Of these, the LEV-1 is not only capable of direct to Earth transmission, but it also has been assigned its own amateur radio license: JS1YMG, which makes it the first Ham radio station on the Moon. LEV-1 receives data from LEV-2, which is transmitted to Earth using its 1 Watt UHF circular polarization antenna as Morse code at 437.410 MHz. Although the data format wasn't published, Daniel Estévez, EA4GPZ, was able to figure it out.



Japan's LEV-1 Lunar Lander

Using captures from the 25 meter radiotelescope at Dwingeloo in the Netherlands, He set to work deciphering what he knew to be telemetry data following a CCSDS standard. After some mix-and-matching he found that the encoding



Waterfall of the LEV-1 signal (Credit: Daniel Estévez)

matched PCM/PSK/PM with a symbol rate of 64 baud and 2048 kHz subcarrier. The carrier is modulated with Morse code, but initially this code made no sense. Fortunately a few fellow Hams pitched in and figured out that the amplitude signs for the Morse code were inverted. By inverting the amplitude, suddenly the Morse code looked a lot more clear, with the LEV-1's call sign and what looked like hexadecimal data following it. Each of the frames is also followed by a CRC-16, which should make it possible to start decoding the data transmitted in each frame.

How long the signals will last is not known, as the transmitter is not designed to survive the Moon's frigid two week night.

Is Ham Radio Still a Popular Hobby in the Colossal Digital Era of the 21st Century?

Ham radio -- or Amateur radio as widely known worldwide -- offers an engaging, tactile communication experience that's hard to find in our increasingly busy lives. Crafting your own wireless communication gizmos and hearing them echo across the globe is an unparalleled thrill for many.

The slick 'n' trendy smartphones are taking the center stage in today's society, and with its vintage nostalgic charm and Amateur radio may seem like a thing of the past. Still, this niche pastime persists, buzzing on frequencies well outside the coverage area of mobile towers. How is ham radio applicable in the modern era? Does it provide something different and interesting in a society when digital communication is the neo-norm? Let's examine the reasons behind the continued popularity of Amateur radio, as well as the difficulties it faces in this day of constant connectivity.

Enduring Appeal: What keeps Hams humming?

- **DIY and experimentation's thrill:** In our increasingly digital world, Ham Radio offers a physical, hands-on experience that's increasingly rare: building your own antennas, working with circuits, and coaxing signals across great distances. For many people, there's no greater delight than creating your own communication tools and seeing them take the world by storm.
- **Community and camaraderie:** The ham radio community is characterized by a spirit of service and a common desire for exploration. It is a friendly and inviting environment. HAMs with their ability to bridge geographical and cultural barriers, cultivate sincere friendships founded on communicative pleasure and common experiences. Many find great attraction in this feeling of community and friendship, especially in these era of growing isolation.
- **Emergency communication:** During natural catastrophes, this unique hobby turns into a vital lifeline, when interconnected digital networks collapse and infrastructure fails. HAMs offer essential communication channels for transmitting critical information and organizing rescue operations during grueling situations. When routes and various modes break, their wireless equipment's and communication talents guarantee a crucial life-saving help.
- **Technical and scientific exploration:** The interesting fields of electronics, antenna design, and radio wave propagation can all be accessed through ham radio. before getting the License HAMs are forced to study, investigate, and try new things as it pushes the limits of communication and technology. This continuous research keeps the pastime interesting and thought-provoking.
- **A portal to the world:** A Ham radio station transforms your living room into a window to the outside world. They speak with folks near or far, have animated conversations with HAMs on different continents, or have conversations with astronauts orbiting the Earth.

Challenges and Adaptations: Ham Radio in the Digital age

- **Recruitment and demographics:** As the average age of HAMs rises, there is growing worry about drawing in younger generations. Even while digital alternatives may appear more user-friendly, it is imperative for the hobby's survival to introduce tech-savvy youth to the thrill and distinctive benefits of this hobby.
- **Competition from Digital communication:** Todays reputable communication channels like the Internet and cell phones have a lot of market share. It is crucial to emphasize the special benefits of Ham radio, such as its independence from infrastructure and its capacity for emergency communication.
- **Regulatory obstacles:** For newbies, navigating through complicated regulations and licensing processes can be intimidating. Amateur radio can be made more widely available by encouraging people to use resources to get started and streamlining licensing procedures.
- **Morse Signaling:** New comers in this hobby are seen to be reluctant on learning the fun in Morse code as it takes lot of time, patience and concentration. Some countries do not certify higher grades of license for those who are unable to learn & pass the practical exam.
- **Accepting technology:** As amateur radio is all about the tinkering spirit, accepting new technological developments to it might draw in new listeners. Reviving the hobby is being accomplished by using Digital forms of communication and investigating cutting-edge uses such as satellite communication. Challenges, for sure. But Amateur Radio still has much to offer, and promoting the hobby is something every Amateur can -- and should -- be involved.

CALENDAR

March 13, 2024 - Regular monthly club meeting, East Greenbush Masonic Lodge, 7 pm.

March 30, 2024 - 8am - 2 pm - W2SZ Ham Flea Market held at RPI McNeil Room (see story on page 13).

June 2, 2024 - Annual EGARA Hamfest. East Greenbush Volunteer Fire Department, Phelps Road, Rensselaer.

Pro Tip: Power Supply Noise

Eliminating noise is the goal of every Amateur operator, but tracking it down is often difficult and sometimes near impossible.

One common culprit is the switching power supply used in many electronic devices, especially computers.

These employ high frequency switching and thus, are a source of radio interference, a recipient of radio interference and a conduit of radio interference.

Unfortunately, a simple, ferrite bead or snap-on ferrite usually can not introduce enough inductive reactance to effectively knock down the RF energy to the degree that we might like. While it may reduce the energy by a few dB, it is often required to reduce the RFI by 10's of dB and more aggressive filtering is usually required to do this.

Fortunately, Linear type transformer based power supplies do not employ high frequency switching voltages and will be quieter as compared to switching type of supplies. They're a better choice when possible.

The East Greenbush Amateur Radio Association

Organized in 1998, by Bert Bruins, N2FPJ, (SK) and Chris Linck, N2NEH, the East Greenbush Amateur Radio Association, an ARRL affiliate, is committed to providing emergency services, educational programs, and operating resources to amateur radio operators and residents of the Capital Region of New York State. The club station is W2EGB. The club also has several VHF and UHF repeaters open to club members and the public.



GEAR FOR SALE

- **Yasau VX5R radio.** 50/144/430 MHz triple-band FM handheld transceiver with wide-band receive coverage. Up to 5 Watts of power output. VFO-A / VFO-B split and linking modes. Dual-watch feature. CTCSS and DCS encoder/decoder. Multi-section Antenna for 6-meter and VHF/UHF bands. Tough aluminum diecast construction. Asking \$175.

- **Kenwood 520S transceiver,** \$250.

Contact Ridge at kb2hwl@gmail.com

- **Heil RS 1 12' riser brand new** \$ 30.00

Contact Walt, N2WJR at N2WJR07@gmail.com

- **Icom R20** handheld receiver, excellent condition - \$350.00
- **Uniden 436HP Digital Scanner,** excellent condition - \$400.00

Tom, KB2WRH at 518-312-2874 or fierrorealtyservices@gmail.com

- **Kenwood TS 590,** asking \$750
- **Yaesu FT 990 w/ speaker,** asking \$700
- **Yaesu FT 950 ,** asking \$750.00
- **Yaesu FT 1200** asking \$1000.00

Contact: Frank 518-636-3510

- **VIBROPLEX "Bug" semi-automatic key.** Original "PRESENTATION" Model with Gold Plated baseplate escutcheon. Beautiful heavily chromed upper parts, bright red finger pieces, jeweled bearings. Lists for \$350, sell only \$250, plus postage. Beautiful wood case.

Contact Steve at: (518) 326-0902 or stevewb2hpr@gmail.com

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